Study Title

Approximate Lethal Dose (ALD) of H-21216 in Rats

Laboratory Project ID

Haskell Laboratory Report No. 770-95

Author

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Study Completed On

February 26, 1996

Performing Laboratory

E. I. du Pont de Nemours and Company
Haskell Laboratory for Toxicology and Industrial Medicine
Elkton Road, P. O. Box 50
Newark, Delaware 19714

Medical Research No. 10074-001

GENERAL INFORMATION

Substance Tested:	Propanoic acid, 2,3,3,3-tetraflouro-2-(heptafluoropropoxy)-, ammonium salt
Synonyms/Codes:	• H-21216 • HFPO Dimer Ammonium Salt • Ammonium perfluoro-2-methyl-3-oxahexanoate • 2,3,3,3-Tetrafluoro-2-(heptafluoro-propoxy)propanoic acid ammonium salt • Ammonium Salt • Hazard Code UN2928 • Cost Center ID Code E83640-19
Physical Form:	White solid
Composition:	Not provided by sponsor
Contaminants:	Not provided by sponsor
Purity:	Greater than 99%
Submitter's Notebook No.:	E83640-19
CAS Registry No.:	62037-80-3
Sponsor:	DuPont Fluoroproducts E. I. du Pont de Nemours and Company Wilmington, Delaware
Study Initiated - Completed:	9/12/95 - 2/26/96
In Life Phase Initiated - Completed:	9/13/95 - 10/2/95

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SUMMARY

H-21216 was administered as a single oral dose by intragastric intubation to male rats. Rats were found dead up to 1 day after dosing. Clinical signs of toxicity were observed in lethally and nonlethally dosed animals. Under the conditions of this test, the ALD was 5000 mg/kg of body weight. This substance is considered to be slightly toxic (ALD 500 - 5000 mg/kg) when administered as a single oral dose.

Report by: Amy L. Williamson
Amy L. Williamson
Secretary

Work by: M. Scott Karr
M. Scott Karr
Toxicology Technician

Reviewed and Approved for Issue: Tracy A. Filliben 2/26/96
Tracy A. Filliben
Study Director

TF/alw

INTRODUCTION

The purpose of this test was to determine an approximate lethal dose of H-21216 when administered as a single oral dose to male rats. The ALD was defined as the lowest dose administered which caused death either on the day of dosing or within 14 days post exposure.

MATERIALS AND METHODS

A. Animal Husbandry

Male Crl:CD®BR rats, approximately 7 weeks old, were received from Charles River Breeding Laboratories, Raleigh, North Carolina. Rats were housed singly in suspended, stainless steel, wire-mesh cages. Each rat was assigned a unique identification number which was recorded on a card affixed to the cage. The rats were tail-marked, using a water-insoluble marker, with the last 3 digits of the animal number. Purina Certified Rodent Chow® #5002 and water were available ad libitum.

Haskell Laboratory has an animal health monitoring program. This program is monitored and administered by the Laboratory Veterinarian. Water samples are periodically analyzed for total bacterial counts and for the presence of coliforms, lead, and other contaminants. Additionally, samples from freshly washed cages and cage racks are periodically analyzed to assure adequate sanitation by the cagewashers. Data from this program are maintained separately from study records. Animal feed is certified by the manufacturer to meet specified nutritional requirements and to be free of a list of specified contaminants. On the basis of these analyses, there is no evidence suggesting that contaminants were present in the feed or water in amounts which may have interfered with the results of this study.

Rats were quarantined, weighed, and observed for general health for approximately one week prior to testing. Animal rooms were maintained on a timer-controlled, 12-hour light/12-hour dark cycle. Environmental conditions of the rooms were targeted for a temperature of 23°C ± 1°C and relative humidity of 50% ± 10%. Excursions outside these ranges were of small magnitude and/or brief duration and did not adversely affect the validity of the study.

B. Protocol

The test substance was dissolved in deionized water and administered to 1 rat per dose rate by intragastric intubation. In the absence of visible evidence to the contrary, the test substance was assumed to be stable under the conditions of administration. Dose rates administered

ranged from 2300 to 11,000 mg/kg of body weight in increments of approximately 50%. Additionally, 1 rat was dosed at 670 mg/kg. The dosing day was test day 1; postexposure day 14 was test day 15. Following administration of the test substance, rats were observed for clinical signs of toxicity. Surviving rats were weighed and observed daily until signs of toxicity subsided and then at least 3 times a week throughout the 14-day observation period. Observations for mortality were made daily throughout the study. Pathological examinations of test animals were not performed.

C. Records Retention

All raw data and the final report will be stored in the archives of Haskell Laboratory for Toxicology and Industrial Medicine, E. I. du Pont de Nemours and Company, Newark, Delaware or in the DuPont Records Management Center, Wilmington, Delaware.

RESULTS

A. Dosage and Mortality Data

The dosage regimen and the mortality resulting over the 15-day test period are detailed below. The lowest dose of H-21216 which resulted in the death of a test animal was 5000 mg/kg. Rats were found dead up to 1 day after dosing.

Dosage (mg/kg)	Dose Volume (mL)	Mixture Concentration (mg/mL)	Initial Body Weight (g)	Mortality
670	1.2	150	272	No
2300	3.8	150	248	No
3400	1.6	500	239	No
5000	2.4	500	238	Yes
7500	3.8	500	252	Yes
11,000	5.9	500	269	Yes

B. Clinical Signs

Nonlethal Doses

The rat dosed at 670 mg/kg exhibited no clinical signs of toxicity during this study. The rats dosed at 2300 mg/kg and 3400 mg/kg exhibited wet, yellow-stained perineum and ruffled fur 1 day after dosing. These rats also exhibited weight losses of approximately 17% and 14%, respectively, by 1 day after dosing. The clinical signs observed in the rats dosed at 2300 and 3400 mg/kg had cleared by 2 and 4 days after dosing, respectively.

Lethal Doses

The rat dosed at 11,000 mg/kg exhibited lethargic behavior, low carriage, and low posture by 1 hour after dosing. The rats treated at 5000, 7500, and 11,000 mg/kg were found dead 1 day after dosing.

CONCLUSION

Under the conditions of this study, the ALD for H-21216 was 5000 mg/kg of body weight. This substance is considered to be slightly toxic (ALD 500 - 5000 mg/kg) when administered as a single oral dose to male rats.

DUPONT CENTRAL RESEARCH AND DEVELOPMENT
HASKELL LABORATORY FOR TOXICOLOGY
AND INDUSTRIAL MEDICINE

February 26, 1996

TO: MR 10074-001
Approximate Lethal Dose (ALD) of H-21216 in Rats

FROM: Tracy A. Filliben
Study Director

Notebooks used in this study were:

E-82729
E-82729-G0, pp. 1-14

Distribution of the final report (HLR 770-95) was:

S. R. Laas (1)
P. R. Resnick (1)
T. A. Filliben (1)

MR Number	10074-001
Haskell Number	21216
Study Code	810
Metrics Report Code	36

Compound Submitter: P. R. Resnick

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